Artham
Resource Material

For Revised Syllabus Session 2024-25

EXEMPLAR SOLUTIONS

BIOLOGY

Chapter 3 :Reproductive Health

Class 12

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Chapter 3
Reproductive Health

1. The method of directly injecting a sperm into ovum in Assisted Reproductive Technology is called:
a. GIFT
b. ZIFT
c. ICSI
d. ET
Solution:
Option (c) is the answer.

2. Increased IMR and decreased MMR in a population will:
a. Cause a rapid increase in growth rate
b. Result in a decline in growth rate
c. Not cause a significant change in growth rate
d. Result in an explosive population
Solution:
Option (b) is the answer.

3. Intensely lactating mothers do not generally conceive due to the:
a. Suppression of gonadotropins
b. Hypersecretion of gonadotropins
c. Suppression of gametic transport
d. Suppression of fertilization
Solution:
Option (a) is the answer.

4. Sterilisation techniques are generally foolproof methods of contraception with least side effects. Yet, this is the last option for couples because:

i. It is almost irreversible
ii. Of the misconception that it will reduce sexual urge
iii. It is a surgical procedure
iv. Of lack of sufficient facilities in many parts of the country
Choose the correct option:
a. i and iii
b. ii and iii
c. ii and iv
d. I, ii, iii and iv
Solution:
Option (d) is the answer.

5. A national-level approach to building up a reproductively healthy society was taken up in our country in:
a. the 1950s
b. The 1960s
c. The 1980s
d. The 1990s

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Solution:
Option (a) is the answer.

6. Emergency contraceptives are effective if used within:
a. 72 hrs of coitus
b. 72 hrs of ovulation
c. 72 hrs of menstruation
d. 72 hrs of implantation
Solution:
Option (a) is the answer.

7. Choose the right one among the statements given below:
a. IUDs are generally inserted by the user herself
b. IUDs increase phagocytosis reaction in the uterus
c. IUDs suppress gametogenesis
d. IUDs once inserted need not be replaced
Solution:
Option (b) is the answer.

8. Following statements are given regarding MTP. Choose the correct options given below:
i. MTPs are generally advised during first trimester
ii. MTPs are used as a contraceptive method
iii. MTPs are always surgical
iv. MTPs require the assistance of qualified medical personnel
(a) ii and iii (b) ii and iii (c) i and iv (d) i and ii
Solution:
Option (c) is the answer.

9. From the sexually transmitted diseases mentioned below, identify the one which does not specifically affect the sex organs:
a. Syphilis
b. AIDS
c. Gonorrhoea
d. Genital warts
Solution:
Option (b) is the answer.

10. Condoms are one of the most popular contraceptives because of the following reasons:
a. These are effective barriers for insemination
b. They do not interfere with coital act
c. These help in reducing the risk of STDs
d. All of the above
Solution:
Option (d) is the answer.

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11. Choose the correct statement regarding the ZIFT procedure:
a. Ova collected from a female donor are transferred to the fallopian tube to facilitate zygote formation.
b. A zygote is collected from a female donor and transferred to the fallopian tube
c. A zygote is collected from a female donor and transferred to the uterus
d. Ova collected from a female donor and transferred to the uterus
Solution:
Option (b) is the answer.

12. The correct surgical procedure as a contraceptive method is:
a. Ovariectomy
b. Hysterectomy
c. Vasectomy
d. Castration
Solution:
Option (c) is the answer.

13. Diaphragms are contraceptive devices used by females. Choose the correct option from the statements given below:
i. They are introduced into the uterus
ii. They are placed to cover the cervical region
iii. They act as physical barriers for sperm entry
iv. They act as spermicidal agents
(a) I and ii, (b) I and iii, (c) ii and iii, (d) iii & iv
Solution:
Option (c) is the answer.

VERY SHORT ANSWER TYPE QUESTIONS

1. Reproductive health refers only to healthy reproductive functions. Comment.
Solution:
Reproductive health means total well-being in all aspects of reproduction, i.e., physical, emotional, behavioural and social. That is the normal functioning of all the reproductive organs.

2. Comment on the Reproductive and Child Health Care programme of the government to improve the reproductive health of the people.
Solution:
The main intention of the Reproductive and Child Health Care programme is to create awareness about the reproduction-related areas or topics among people. RCH's main aim is to reduce mortality rates of infants, children and mothers.

3. The present population growth rate in India is alarming. Suggest ways to check it.
Solution:
i. By motivating smaller families to use contraceptive methods or birth control methods.
ii. By providing incentives to couples with small families so that people can be motivated to have

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smaller families.
iii. By educating people about the consequences of uncontrolled population growth.

4. STDs can be considered as self-invited diseases. Comment.
Solution:
STDs are diseases or infections which are transmitted through sexual intercourse, they are also known as venereal diseases (VD) or reproductive tract infections (RTI).

5. Suggest the reproduction-related aspects in which counselling should be provided at the school level.
Solution:
1. Make aware of the sex-related aspect to the young children so that they don't believe in myths
2. Information about the sex organs, adolescence and related changes
3. Creating awareness of problems due to uncontrolled population growth, social evils like sex-abuse and sex-related crimes

6. Mention the primary aim of the "Assisted Reproductive Technology" (ART) programme.
Solution:
The primary aim of the "Assisted Reproductive Technology" (ART) programme is to help infertile couples to have children through these special techniques.

7. What is the significance of progesterone-estrogen combination as a contraceptive measure?
Solution:
It inhibits the ovulation and implantation and also will alter the quality cervical mucus to prevent the sperm entry.

8. Strict conditions are to be followed in the medical termination of pregnancy (MTP) procedures. Mention two reasons.
Solution:
i. To avoid this cruel and sexist practice, strict guidelines and laws are to be put in place.
ii. MTPs are sometimes illegally performed by unqualified people who are unsafe in some cases fatal too.

9. Males in whom testes fail to descend to the scrotum are generally infertile. Why?
Solution:
Testes are very sensitive to temperature, if they do not descend into the scrotum before adolescence, they will stop producing sperms. This leads to inhibition of gametogenesis and hence causes infertility.

10. Mention two advantages of lactational amenorrhea as a contraceptive method.
Solution;
1. Breastfeeding leads to increased levels of prolactin, a hormone that inhibits ovulation and thereby no pregnancy.
2. It does not require any insertion of any type of devices.

SHORT ANSWER TYPE QUESTIONS

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1. Suggest some important steps that you would recommend to be taken to improve the reproductive health standards in India.
Solution:
1. Introduction of sex education at the school level to create awareness about various sex-related aspects
2. By providing infrastructural facilities and professional expertise to attain reproductive health.
3. Parents, other close relatives, teachers and friends, also have a major role in the dissemination of the above information.

2. The procedure of GIFT involves the transfer of female gamete to the fallopian tube. Can gametes be transferred to the uterus to achieve the same result? Explain.
Solution:
GIFT – Gamete Intra Fallopian Transfer is one of the methods of Assisted Reproductive Technology (ART). And if the gametes/ovum is transferred to the uterus, from uterus they cannot move to the fallopian tube. And also fertilization does not take place in the uterus as the uterine environment is not congenial for the survival of the gametes. Hence the same results cannot be achieved.

3. Copper ions-releasing IUDs are more efficient than non-medicated methods. Why?
Solution:
Copper ions released suppress sperm motility and fertilizing capacity of sperms. It increases the phagocytosis of sperms within the uterus. They are one of the safest and most effective.

4. What are the probable factors that contributed to the population explosion in India?
Solution:
1. Increase in several people of reproducible age.
2. Rapid decline in death rate, maternal mortality rate (MMR) and infant mortality rate (IMR)
3. Poverty and illiteracy
4. Desire to have a male child makes people have more children.

5. Briefly explain IVF and ET. What are the conditions in which these methods are advised?
Solution:
IVF – In Vitro Fertilization is the process of fertilization outside the body in conditions similar to the body's internal environment. This method is preferable for females who cannot conceive. IVF is also known as a test-tube baby programme. In this method, the gametes from the male (sperm) and female (ova) are collected hygienically and are allowed to fuse (to form zygote) in a laboratory set up under simulated conditions.

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6. What are the advantages of natural methods of contraception over artificial methods?
Solution:
1. There won't be any surgical intervention or side effects
2. The natural method can be used at any stage of the reproductive cycle.
3. It will be cost-effective.

7. What are the conditions in which the medical termination of pregnancy is advised?
Solution:
i. Medical Termination of Pregnancy also known as abortion is the intentional or voluntary termination of pregnancy which is advised only if when the continuation of the pregnancy could be harmful or even

fatal either to the mother, the foetus or to both. It is advised if the foetus is suffering from an incurable disease. It can be done when one wants to terminate an unwanted pregnancy.

8. Comment on the essential features required for an ideal contraceptive.
Solution:
i. Ease of availability
ii. User-friendliness
iii. Cost-optimized
iv. No interference with sexual drive

9. All reproductive tract infections (RTIs) are STDs, but all STDs are not RTIs. Justify with example.
Solution:
RTIs – Reproductive Tract Infections STDs – Sexually Transmitted Diseases
Common STDs are gonorrhoea, syphilis, genital herpes, Chlamydia, hepatitis B, AIDS, etc. which do not cause reproductive tracts infections. Hepatitis-B and AIDS are not infections of the reproductive organs through their mode of transmission could be through sexual contact also. Hence all STDs are not RTIs.

LONG ANSWER QUESTIONS

1. What are the Assisted Reproductive Techniques practiced to help infertile couples? Describe any three techniques.
Solution:
The primary aim of the "Assisted Reproductive Technology" (ART) programme is to help infertile couples have children.
i. Test Tube Baby Programme
IVF is also known as a test-tube baby programme which in-vitro fertilization. Male gametes (sperm) and female (ova) are collected hygienically and allowed to fuse (to form a zygote) in a laboratory set up under simulated conditions.
ii. GIFT - Gamete Intra Fallopian Transfer
GIFT is the transfer of an ovum collected from a donor into the fallopian tube of another female who cannot produce an ovum but can provide a suitable environment for fertilisation and further development of the embryo takes place here.

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2. Discuss the mode of action and advantages/disadvantages of hormonal contraceptives.
Solution:
The mode of action and advantages of hormonal contraceptives are:
1. Pills inhibit ovulation and implantation as well as alter the quality of cervical mucus to prevent/ retard entry of sperms.
2. Progestogens alone or in combination with estrogen can also be used as injections or implants under the skin.
3. Hormone-based contraceptive is completely reversible allowing pregnancy to occur on discontinued usage.
DISADVANTAGES:

1. It can cause allergic conditions and serious side effects.
2. It may cause damage to the normal hormonal balance.
3. They disturb the menstrual cycle so that level of menstrual flow can be either too low or high and lead to irregular menstruation cycles.

3. STDs are a threat to reproductive health. Describe any two such diseases and suggest preventive measures.
Solution:
Gonorrhoea, syphilis, genital herpes, chlamydia, genital warts, trichomoniasis, hepatitis-B and AIDS are some of the common STDs.
AIDS (Acquired Immuno Deficiency Syndrome) is a set of symptoms caused by HIV (Human Immunodeficiency Virus or Human T-cell leukaemia virus) virus in humans. AIDS is usually developed from infection after a few months or can even take years. Diagnostic test for AIDS is ELISA (Enzyme-Linked ImmunoSorbent Assay).
Hepatitis-B is caused by the Hepatitis-B virus. It is transmitted by blood transfusions or contaminated needles or body fluids (like semen, saliva, sweat, breast milk, etc). As it can be transmitted by breast milk the baby lactating infected mother also gets infected.

4. Do you justify the statutory ban on amniocentesis in our country? Give reasons.
Solution:
Yes, I do justify the statutory ban on amniocentesis in our country. Yes, I do justify the statutory ban on amniocentesis in our country. if the female foetus is found the pregnancy is terminated leading to female foeticide. This is done due to increasing demand for the male child either due to small family or due to orthodoxy. And female foeticide is again illegal.

5. Enumerate and describe any five reasons for introducing sex education to school-going children.
Solution:
1. The sex education in schools will help the students to get a clear understanding of the myths and misconceptions related to sex.
2. Helps in providing information about the reproductive organs and the changes happening at the period of adolescence
3. Helps them to understand the importance of carrying a child in the womb and pregnancy, post-natal care of the mother and child, the importance of breastfeeding, gender equality, would allow the younger generation to be educated and aware of sexual wellbeing.
4. Educating children of age group 12 and above about safe and hygienic sexual practices ensures safeguard against STDs.
5. This type of education also helps children to lead a healthy reproductive life in future.

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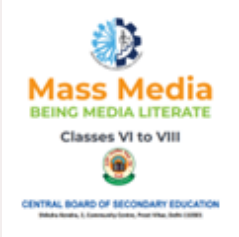

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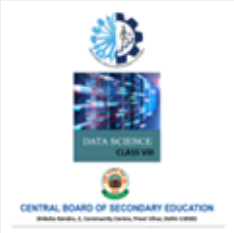

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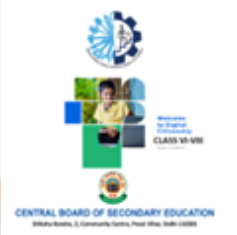

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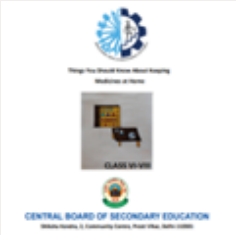
Life Cycle of Medicine & Vaccine



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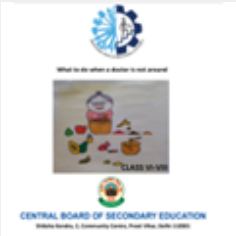

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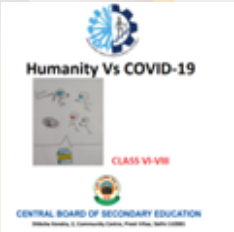

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Pottery

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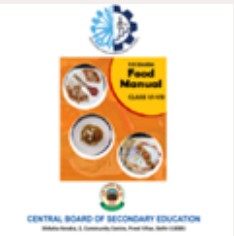
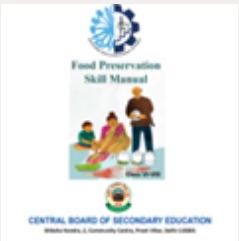


Food



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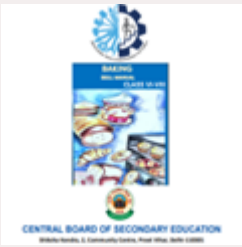
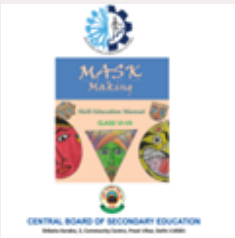


Baking

Herbal Heritage

Khadi



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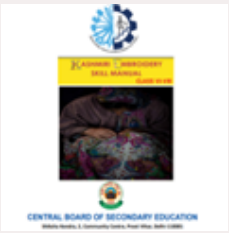
Mass Media

Making of a Graphic Novel

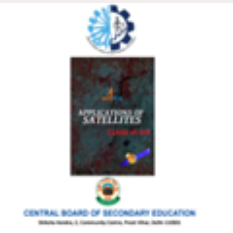


Kashmiri Embroidery

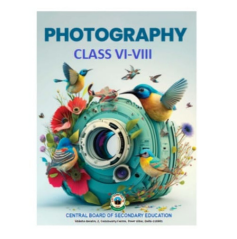
Embroidery

Rockets

Satellites



Application of Satellites

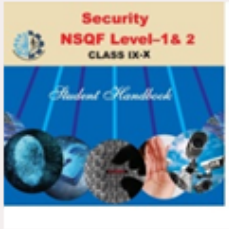


Photography

SKILL SUBJECTS AT SECONDARY LEVEL (CLASSES IX – X)

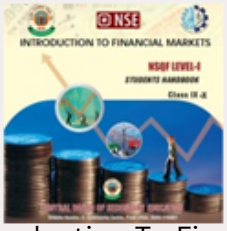
Retail

Information Technology



Security

Automotive



Introduction To Financial Markets

Introduction To Tourism

Beauty & Wellness

Agriculture

Food Production

Front Office Operations

Banking & Insurance

Marketing & Sales

Health Care

Apparel

Multi Media

Multi Skill Foundation Course

Artificial Intelligence

Physical Activity Trainer

Data Science

Electronics & Hardware (NEW)

Foundation Skills For Sciences (Pharmaceutical & Biotechnology)(NEW)

Design Thinking & Innovation (NEW)

SKILL SUBJECTS AT SR. SEC. LEVEL (CLASSES XI – XII)

Retail

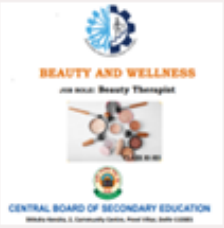
InformationTechnology

Web Application

Automotive

Financial Markets Management

Tourism



Beauty & Wellness

Agriculture

Food Production

Front Office Operations

Banking

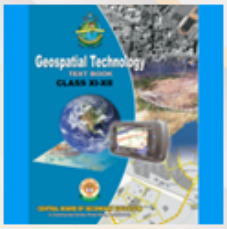
Marketing

Health Care

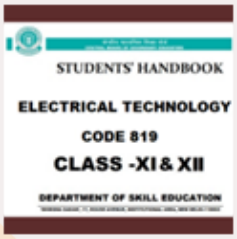
Insurance

Horticulture

Typography & Comp. Application

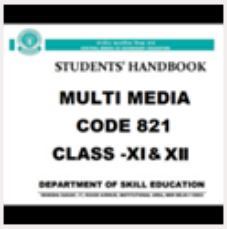


Geospatial Technology



Electrical Technology

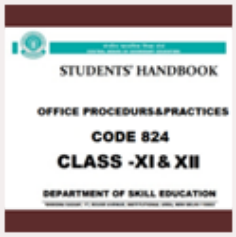
Electronic Technology



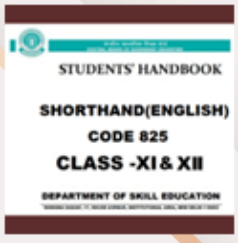
Multi-Media

Taxation

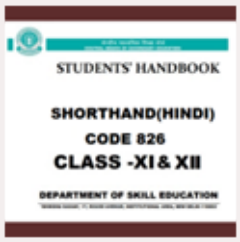
Cost Accounting



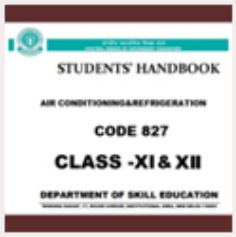
Office Procedures & Practices



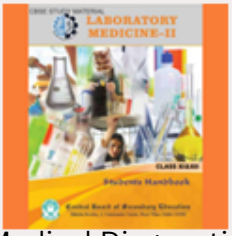
Shorthand (English)



Shorthand (Hindi)



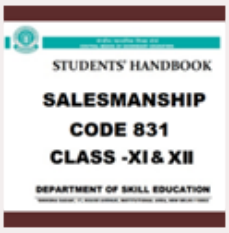
Air-Conditioning & Refrigeration



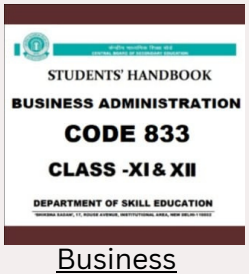
Medical Diagnostics

Textile Design

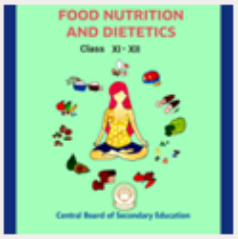
Design



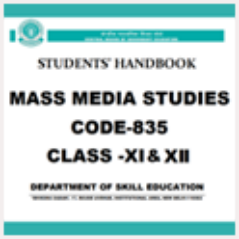
Salesmanship



Business Administration



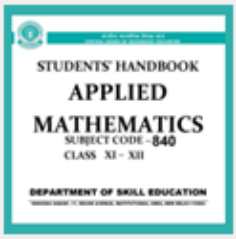
Food Nutrition & Dietetics



Mass Media Studies

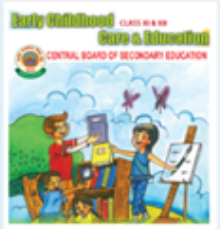
Library & Information Science

Fashion Studies



Applied Mathematics

Yoga

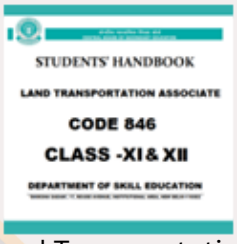


Early Childhood Care & Education

Artificial Intelligence

Data Science

Physical Activity Trainer(new)



Land Transportation Associate (NEW)

Electronics & Hardware (NEW)

Design Thinking & Innovation (NEW)